

REMARKS

The courteous interview granted to applicants' undersigned attorney and Dr. Gary Wentworth on April 12, 2006, is hereby acknowledged with appreciation. At the interview, the invention, the outstanding Office Action, and the prior art of record were thoroughly discussed. It was agreed at the interview that a new Declaration Under 37 C.F.R. §1.132 would be submitted pointing to unexpected results data presented in the specification. The new Declaration of Gary Wentworth is attached hereto as *Exhibit A*.

The objections to claims 6-13, 18, 20, 22 and 35 (paragraph 2 of the Office Action) and the rejections of claims 6-17 and 54-76 under 35 U.S.C. §112 (paragraph 14 of the Office Action) have been obviated by appropriate claim amendments. Withdrawal of these objections and rejections is respectfully requested.

It is submitted that the objection to claims 35 and 82, which contains CAS# of the claimed dimers, is extremely specific and otherwise not capable of a more precise definition since CAS# 61788-89-4 is a mixture of compounds (fatty acids, C-18-unsaturated dimers). It was agreed at the interview of April 12, 2006 that the objection to the CAS# would be withdrawn.

Enclosed is a proper terminal disclaimer to obviate all obviousness-type double patenting rejections. All applications and patents cited in the double patenting rejection were commonly owned with the assignee of this application at the time the invention in this application was made, as described in the terminal disclaimer pointing to the recorded assignments. Withdrawal of all double patenting rejections is respectfully requested.

Claims 34-39, and 69-80 now are directed to a combination of esters of formulas I, III and IV; claims 62-65 and 86 call for a combination of esters of formulas III and IV. Support for these combinations of esters is found at original claim 1 (any two or more of formulas I, II, III and IV); page 13, line 7 (mixtures) and elsewhere throughout the specification.

PRIOR ART REJECTIONS

Claims 69-73 stand rejected under 35 U.S.C. §102(b) as anticipated by Honda (3,968,198). Claim 69 has been amended to define the esters of the sealant composition to be a combination of esters of formulas I, II, III and IV. Claims 69-73, therefore, now are patentably distinct from the teachings of Honda since Honda '198 neither teaches nor suggests the esters of applicants' formulas I, II or IV.

It is submitted, therefore, that the rejection of claims 69-73 under 35 U.S.C. §102(b) should be withdrawn.

Claims 69, 72, 73 and 77 stand rejected under 35 U.S.C. §102(b) as anticipated by EP 1022306. The esters disclosed in EP 1,022,306 are derived from linoleic acid and its reaction product with the disclosed alcohols result in a monoester, as in applicants' formula I. Since the rejected claims now are directed to a combination of monoesters, di-esters and tri-esters, and there is no suggestion in the prior art to add these esters to the rubber composition, it is submitted that the rejection should be withdrawn.

Claims 1-4, 54, 57, 58, 69, 72, 73 and 77-80 stand rejected under 35 U.S.C. §102(b) as anticipated by EP 73174. The rejected claims have been amended to distinguish over the diallyl (C_3) esters disclosed in the '174 European patent by amending the R^3 , R^4 definition to C_6-C_{24} or C_6-C_{18} . Since there is no disclosure or suggestion to lengthen these radicals, as claimed, and no motivation in the other prior art, it is submitted that the rejection should be withdrawn.

Claims 54-58 and 77-80 stand rejected under 35 U.S.C. §103(a) as unpatentable over Honda (3,968,198). Amended claim 54 now calls for the ester to be mixed with the sealant composition, and claims 77-80 call for a mixture of esters of formulas I, III and IV. Since the Honda ester is only effective as a surface coating and Honda neither discloses nor suggests incorporating the ester into the sealant composition, it is submitted that the rejection should be withdrawn.

Claims 59-6 and 74-76 stand rejected under 35 U.S.C. §103(a) as unpatentable over EP 73174 in view of Gregory (4,317,755). For reasons stated above, there is no motivation in the prior art to lengthen the R_1 or R_2 allyl chains of EP 7314 to meet the C_6-C_{24} or C_6-C_{18} radicals now claimed, in these claims, by applicant. It is submitted, therefore, that the rejection of claims 59-61 and 74-76 should be withdrawn.

Claims 1-4, 6-8, 10, 13, 14, 18-22, 24, 34, 39-43 and 48 stand rejected under 35 U.S.C. §103(a) as unpatentable over D'Sidocky et al. (U.S. 5,985,963) in view of Oshiyama et al. (4,789,381) and Huynh-Tran et al. (U.S. 2003/0166743).

This rejection is predicated upon the obviousness of adding an ester from one reference (Oshiyama '381) into an adhesive resin containing rubber composition of another reference (D'Sidocky '963). As stated in the parent application, the addition of a lubricant

where adhesion is required is completely non-obvious since the addition of a lubricant would be expected to lower adhesion.

It is stated in the first Office Action that "it is prime facie obvious to combine two ingredients, each of which is targeted by the prior art to be useful for the same purpose." It is submitted that the esters of D'Sidocky and Oshiyama are, in fact, disclosed to be useful for opposite purposes, despite the fact that ultimately, both may be useful in a tire that contains tire cord. While Oshiyama uses applicants' claimed esters (Formulas I and II) to coat the tire cord during manufacture for lubricity to avoid fuzzing and breakage on account of increased friction, D'Sidocky's rosin esters are employed as a tackifier.

As set forth in the enclosed copies of Declarations under 37 C.F.R. §1.132 of Gary Wentworth, Stephen O'Rourke and Kimberly Stefanisin (Exhibit B) submitted in the parent application, the increase in adhesion resulting from the combination of an adhesive resin and the claimed ester(s) was most unexpected. Therefore, it would not have been obvious to one of ordinary skill in the art to add the lubricating esters of the Oshiyama '381 patent to the adhesion promoting, adhesive resin/rubber composition of the D'Sidocky '963 patent.

The alleged obviousness of combining one or more of applicants' claimed esters together with the adhesive resins on the basis that lubricants have been added to rubber compositions is most effectively negated, as explained at the May 7, 2004 interview in the parent application, based on the negative teachings of the Winstanley et al., U.S. Patent 3,654,007, ('007) attached as Exhibit B. "Lubricity" (Oshiyama) is essentially the opposite of "adhesion" (D'Sidocky). As disclosed in the Winstanley et al. '007 Patent, a lubricant is used in the construction of tires containing steel cords by "applying a lubricant in two spaced apart circumferential bands around the first reinforcing layer." (Col. 1, Lines 20-21). In this manner, "relative slip between said layers is allowed by virtue of said bands of lubricant." (Col. 1, Lines 33-34). It is stated that the lubricant does not significantly affect the strength of adhesion of the rubber surfaces surrounding the lubricant (Col. 1, Lines 58-62):

"...after the molding and vulcanization of the tire the properties of the rubber surfaces between which the lubricant acts are not significantly effected, particularly the strength of adhesion between said surfaces."

The '007 Patent makes it quite clear why adhesion is not significantly affected by the lubricant, because the lubricant is omitted where adhesion is required. (Col. 2, Lines 55-57):

"...leaving a marginal portion of the chafer strip devoid of lubricant to enable adhesion to take place between the chafer strip 1 and a superposed carcass ply 2."

The Huynh-Tran '743 publication neither discloses nor suggests the addition of applicants' claimed esters to a rubber composition.

In view of this negative teaching, and the data pointed out in Table IX of applicants' specification, comparing adhesive strength data for esters alone (e.g., Example 25) vs. ester and adhesive resin (e.g., Example 26), it is submitted that the prior art rejection should be withdrawn.

Claims 5 and 23 stand rejected under 35 U.S.C. §103(a) as unpatentable over D'Sidocky ('963) in view of Oshiyama ('381) and Solomon U.S. 4,448,813. This rejection should be withdrawn for the reasons stated above with reference to the combination of D'Sidocky and Oshiyama. Solomon neither discloses nor suggests any motivation for adding the lubricating esters of the Oshiyama ('381) patent to the D'Sidocky composition for the purpose of better adhesion.

Claims 5 and 23 stand rejected under 35 U.S.C. §103(a) as unpatentable over D'Sidosky ('963) in view of Oshiyama '381 and further in view of, Huynh-Tran ('743). This rejection should be withdrawn for the reasons set forth above with respect to the non-obviousness of adding the Oshiyama '381 tire cord manufacturing lubricant to the D'Sidosky '963 rubber composition.

Claims 1-4, 6-8, 10, 13, 14, 18-22, 24, 26-27, 29, 42, 54, 57, 58, 62, 66-69, 72, 73 and 77-80 stand rejected under 35 U.S.C. §103(a) as unpatentable over Singh et al (U.S. 6,298,539) in view of EP 1,022,306. Claims 1, 2 and 42 (each of the above-rejected claims ultimately depends from 1, 2 or 42) have been amended to eliminate formula I. The ester disclosed in EP 1,022,306 is derived from linoleic acid and its reaction product with the disclosed alcohols results in a monoester, as in applicants' formula I. Since the rejected claims now are directed to di-esters and tri-esters, and there is no suggestion in the prior art to add these esters to the rubber composition, it is submitted that the rejection should be withdrawn.

Claim 5 and 23 stand further rejected under 35 U.S.C. §103(a) as unpatentable over EP 1,022,306 in view of Solomon. Since these claims no longer include the ester of formula I, it is submitted that this rejection should be withdrawn.

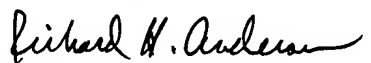
Claims 46-49, 64 and 65 stand rejected under 35 U.S.C. §103(a) as unpatentable over Singh (5,298,539) in view of EP 1,022,306 and further in view of Huynh-Tran. Since these claims no longer include the ester of formula I, it is submitted that this rejection should be withdrawn.

It is submitted that all claims are of proper form and scope for allowance. Early and favorable consideration is respectfully requested.

Applicants believe no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 13-2855, under Order No. 27702/10061 from which the undersigned is authorized to draw.

Dated: May 2, 2006

Respectfully submitted,

By 

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